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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,558	01/19/2001	Qaeed Motiwala	PA000103	1085

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QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER

WANG, TED M

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/12/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 09/766,558	Applicant(s) MOTIWALA ET AL.	
	Examiner Ted M. Wang	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4, 8, 19, 22-24, 26, 27, 29, 33-35, 37-39 and 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26, 27 and 37-39 is/are allowed.
- 6) ☒ Claim(s) 4, 8, 19, 22, 29, 33 and 43 is/are rejected.
- 7) ☒ Claim(s) 23, 24, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The indicated allowability of claims 4, 8, 19, 22, 29, 33 and 43 are withdrawn in view of the newly discovered reference(s) to US 6,381,234 and US 6,598,198.

Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 8, 19, 22, 29, 33 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakoda et al. (US 6,381,234) in view of Furuta et al. (US 6,598,198).

- With regard claims 4 and 8, Sakoda et al. discloses a communication system, a method for processing a frame of data, comprising:

partitioning said frame of data into at least a first and second (plurality) portions of data symbols (Fig.11A and column 12 lines 42-52);

assigning a first channel element to demodulate data symbols of said first portion of data symbols (Fig.10 elements 351a-353a and column 12 lines 20-41),

assigning a second (plurality) channel element to demodulate data symbols of said second portion of data symbols (Fig.10 elements 351b-353b – 351n-353n and column 12 lines 20-41), and

sending demodulated data symbols from said first and second channel elements to individual buffers in accordance with a de-interleaving (Fig.10 elements 354a-354n) function in said communication system (Fig.10 elements 353a-354a – 353n-354n and column 12 lines 31-41).

Sakoda et al. discloses all of the subject matter as described in the above paragraph except for specifically teaching writing to, and subsequently reading from, demodulated data symbol, a RAM in accordance with a de-interleaving function in said communication system.

However, Furuta et al. teaches writing (Fig.13 element 10) to, and subsequently reading (Fig.13 element 20) from, demodulated data symbols (Fig.15 element 2), a RAM (Fig.13 element 41) in accordance with a de-interleaving function (Fig.15 element 3) in said communication system (column 14 lines 38-51) in order to reduce the cost of the buffer with respect to the per bit cost and production cost of the LSI (column 3 lines 8-15).

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the deinterleaver device 3 as taught by Furuta et al. into Sakoda's deinterleave buffer 354a-354n so as to improve reduce the cost of the buffer with respect to the per bit cost and production cost of the LSI.

- With regard claim 19, which is a system claim related to claim 8, all limitation is contained in claim 8. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claims 22 and 29, which is an apparatus claim related to claim 8, Sakoda et al. further discloses a finger resource for partitioning said frame of data into a plurality of portions of data symbols (Fig.10 element 222 and column 11 line 65 – column 12 line 30). All other limitation is contained in claim 8. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 33, which is a mean plus function claim related to claim 8, all limitation is contained in claim 8. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 43, which is a mean plus function claim related to claim 19, all limitation is contained in claim 19. The explanation of all the limitation is already addressed in the above paragraph.

Allowable Subject Matter

4. Claims 26, 27 and 37-39 allowed.
5. Claims 23, 24, 34 and 35 are objected to as being dependent upon an objected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is an examiner's statement of reasons for allowance.

- The prior art fails to teach an apparatus of Claims 26 and 37 that specifically comprises the following:
 - The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. US 5,818,882, US 6,381,234, 6,598,198 and US 6,754,290. The improvement comprises that "wherein the number of said plurality of channel elements assigned to each frame of data is based on a data rate of the data symbols in each of said plurality of frames of data." as recited.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang

A handwritten signature in black ink, appearing to read 'Ted M. Wang', is positioned to the right of the printed name.

Ted M Wang
Examiner
Art Unit 2634